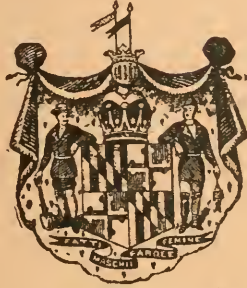


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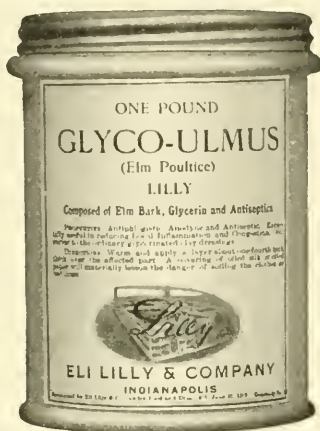
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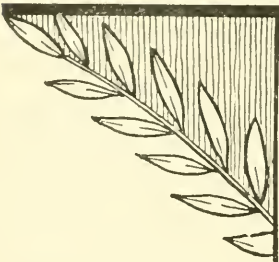
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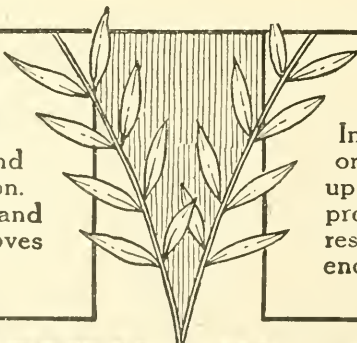
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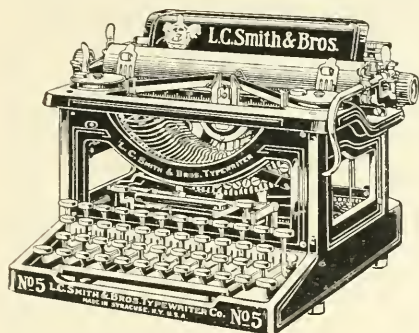
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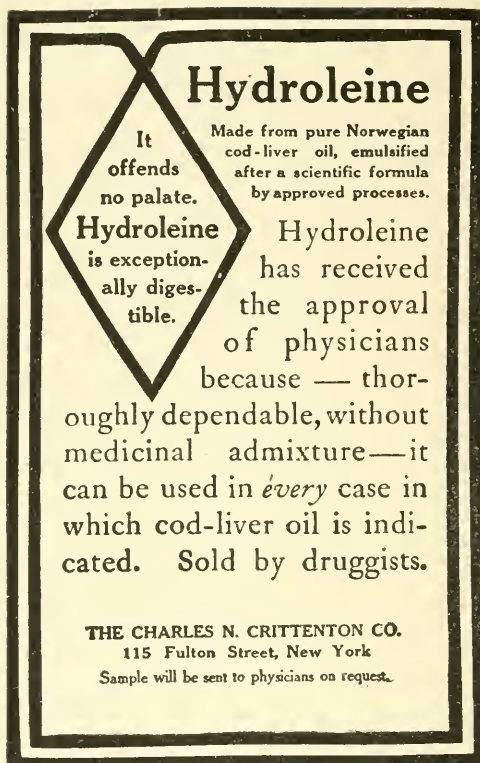
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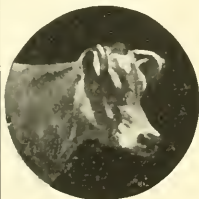
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BALTIMORE, APRIL, 1913

Whole No. 1139

THE KNOWLEDGE OF THE NORMAL RATE OF PROGRESS OF THE INTESTINAL CON- TENT AS AN AID IN THE DIAGNOSIS OF A COMMON FORM OF CONSTIPATION.*

By *Albert Hynson Carroll, M.D.*,

Associate in Gastro-Enterology, University Hospital.

WITHIN the last few years some new and interesting light has been shed on the subject of constipation. Very valuable information regarding the pathogenesis of the several varieties has been obtained, and we are now in a position to diagnose and to treat the condition less blindly than was formerly the case.

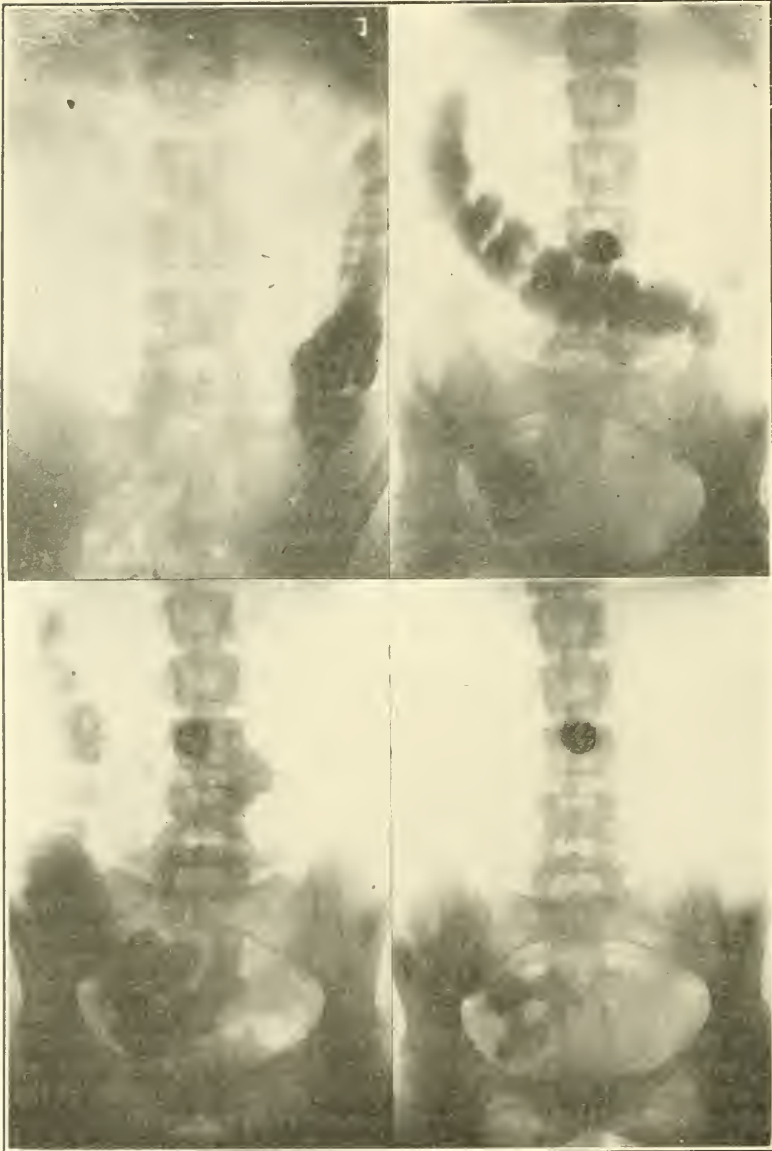
Until quite recently we were of necessity often content with giving the patient a certain amount of temporary relief. If a permanent cure was attempted, it was the rule rather than the exception for the patient or the physician or perhaps for both to lose confidence. The natural result was that many tedious but by no means hopeless cases continued to suffer, since the treatment was largely experimental.

In no other class of cases was this so frequently true as in those patients in whom there existed an atony of the intestinal musculature following overstretching of the bowel by feces and gas. A condition somewhat akin to congenital dilation of the colon—Hirschprung's disease. This inability to diagnose correctly was due to the fact that we did not know at that time the normal rate of progress of the intestinal content through the tube, and we were unable to determine in just which anatomical division of the tube the *actual delay* causing the constipation occurred.

We knew how long it should normally take for ingested food to traverse the entire tract, the upper and lower ends of which are under the control of the central nervous system, while the movements of the remainder or central portions are chiefly determined by local mechanisms which are nervous in character.† We knew from the investigations of Bayliss and Starling that the onward propulsion of the contents of the intestinal tract was

*Extracted from a paper read before the University of Maryland Medical Society April 8, 1913.

†This discussion is based on the assumption that 24 hours should elapse between complete defecations. If the patient was one who normally defecated every 48 hours, the fact should be ascertained in order to avoid error.



The upper righthand X-ray was selected to show the normal position of a meal at the cecum and in the ascending colon, about six to eight hours after ingestion. The upper lefthand one shows where the meal should be two hours later. The lower lefthand shows the meal in the descending and pelvic colon. The lower righthand illustrates the partial retention of feces, and was taken after the defecation of only a part of the content *distal to the splenic flexure*. In such cases examination usually discovers some fecal material in the rectum an hour or more before defecation. An evidence of atony.

brought about by rhythmic wave-like peristaltic contractions of the walls of the tract as a result of the phenomena, that a wave of relaxation was followed by a wave of contraction.

What we did not know at all definitely was the length of time the content normally occupied before leaving the stomach and in reaching the cecum, in arriving at the hepatic flexure, the splenic flexure and in traversing the descending colon and on until it met the obstruction at the acute angled pelvi-rectal flexure.

An exhaustive investigation of this mechanical aspect of digestion was made by Arthur F. Hertz, working with F. Cook, A. M. Cox and others in 1907, at Guys Hospital, London.¹ He made use of the X-ray to study the rate of progress of bismuth laden meals, using healthy men, and was able to demonstrate that the time of arrival of the food residue at well-known anatomical landmarks was quite constant. He also studied in a similar way the journey of the contents in persons suffering from constipation. Finally, the progress was observed in both well and in constipated subjects after the administration of various drugs ordinarily used in the treatment of constipation.² By comparing the results obtained in this way with the clinical signs and symptoms, it was possible to recognize in very many cases, *using only simple clinical methods*, in just which part of the tract the delay was occurring.

This work is of great value, not only because of the deductions which were drawn from it, which aid so materially in interpreting the signs and symptoms of constipation as regards its correct diagnosis, but also because we are often saved the expense and inconvenience of having to have recourse to the X-ray. Once we are aware of the normal rate of progress, auscultation, percussion and palpation will, in a large measure, reveal to us if the progress is not orderly, and if there is a *delay* the location can usually be discovered.

Although the intestinal sounds arising from the passage of gas and food residue through the tube are very complex and generally beyond our interpretation, Cannon agrees with Hertz that there are distinctive sounds to be heard as the content reaches the ilio-colic valve and begins to pass into the cecum.³ These characteristic sounds are heard four or four and a half hours after breakfast, and coincide with the first appearance of the bismuth shadow at this point. Previous to this appearance of the content at the ilio-colic juncture there is nothing to be heard with the stethoscope when placed over the cecum. This is definite information of decided value and interest.

A little later the cecum begins to fill, and there can be elicited a dull percussion note over the cecum with the subject standing, which will disappear on assuming a horizontal position, since the

¹Guys Hosp. Reports, p. 383., 1907.

²Proc. Soc. Med., Dec., 1908.

³The Mechanical Factors of Digestion. Cannon. Arnold. London.

fluid contents will then spread along the posterior wall. Two hours later the dull area has extended upward and has reached the hepatic flexure, and it does not change now to a tympanitic note on lying down. In about nine and one-half hours the content should pass the splenic flexure and begin its descent into the descending colon. This requires about two or two and one-half hours, and the content does not reach the pelvic colon until twelve hours after ingestion. The progress into and through the pelvic colon is slow, but this division of the canal should contain practically all the food residue of a given meal in sixteen hours. Photographs I, II, III illustrate the arrival of a bismuth meal at these anatomical positions or landmarks in the gastro-intestinal tract.

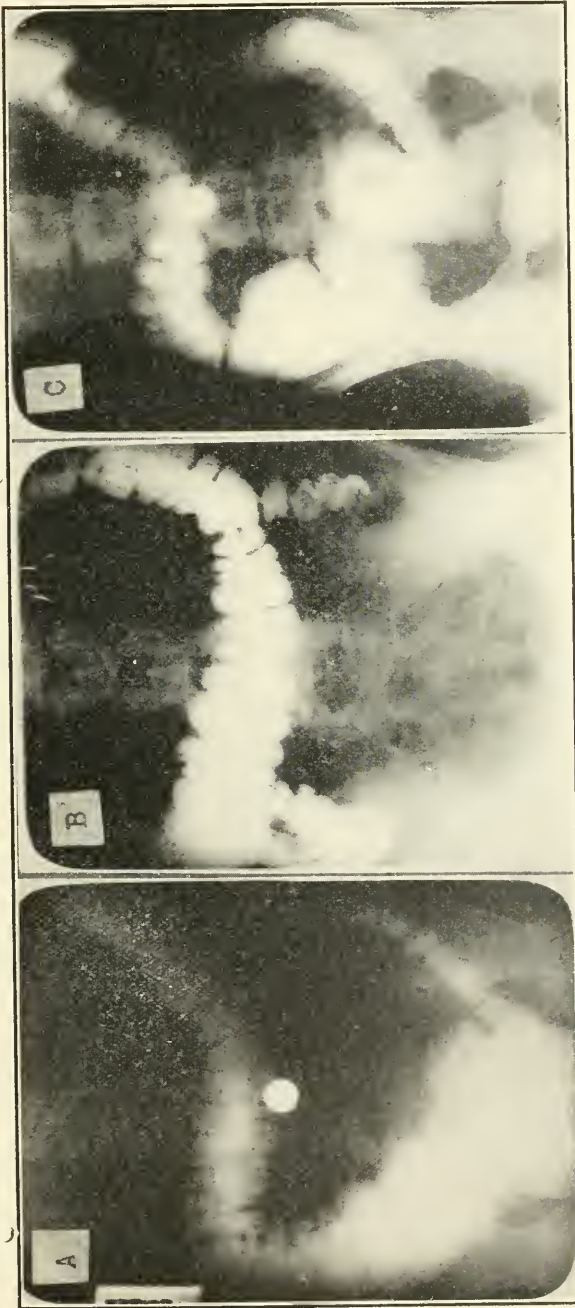
Hertz approached the subject of constipation and its interpretation from a new angle, recognizing that there are two quite distinct processes or journeys made by the contents of the intestine. These are: First, the passage of the food residue from the stomach to the pelvic colon, and second, the complete evacuation of the last division of the colon at proper intervals.

In the first, the passage of the food through the intestines may be delayed while defecation may be normal, while in the second, the passage through the intestines may be normal in time, while *defecation is delayed or incomplete*.

It is now accepted that at each normal defecation the colon is *completely emptied in all that portion distal to the splenic flexure*. If this portion is not completely emptied, it is usually due to a lacking of force necessary or to some obstructive condition. When this exists as a result of the lack of tonicity of the intestinal walls, in many instances there will be found some *fecal material in the rectum* an hour or more before the period arrives for the next defecation. Robert Barnes used the word "dyschezia"⁴ (painful constipation) to denote very similar conditions, and Hertz has called this atonic type "dyschezic constipation" where the above-mentioned incomplete evacuation takes place.

Let us accept the following definition: "Constipation is a condition in which defecation is delayed or occurs at too infrequent intervals; or in which the feces are hard and dry; or in which the fecal material is too small in amount." It is evident that only one, or two, or all three of the conditions may be present at the same time, and that a delay in any portion of the tract will cause a lengthening of the proper period between defecations. Remember also that we can determine when the content has arrived at certain definite portions of the tract, and that there is or should be a complete evacuation of all the content distal to the splenic flexure at each defecation. If otherwise, the defecation is incomplete. If the stool is incomplete it is usually ascribable to atony. With such an atony there is a retention with the absorption of moisture and the feces becomes hard and dry, and in many cases some of it will be found in the rectum, which normally is empty until just before defecation, a phenomena demonstrated long ago by O'Beirne.

⁴Diseases of Women. Barnes. London. 1878, p. 145.



These three X-rays were selected to show "actual delay," occurring in three anatomical divisions of the colon.

A. Shows an enormously distended cecum, which is the point of "actual delay" in this case.

B. Illustrates a similar distention and a retention of content in the first part of the transverse colon, with a narrowing of the lumen in its last third.

C. The delay in this case follows from a distended rectum and cecum, which may have been ascribable to either the first or the latter had either existed independently.

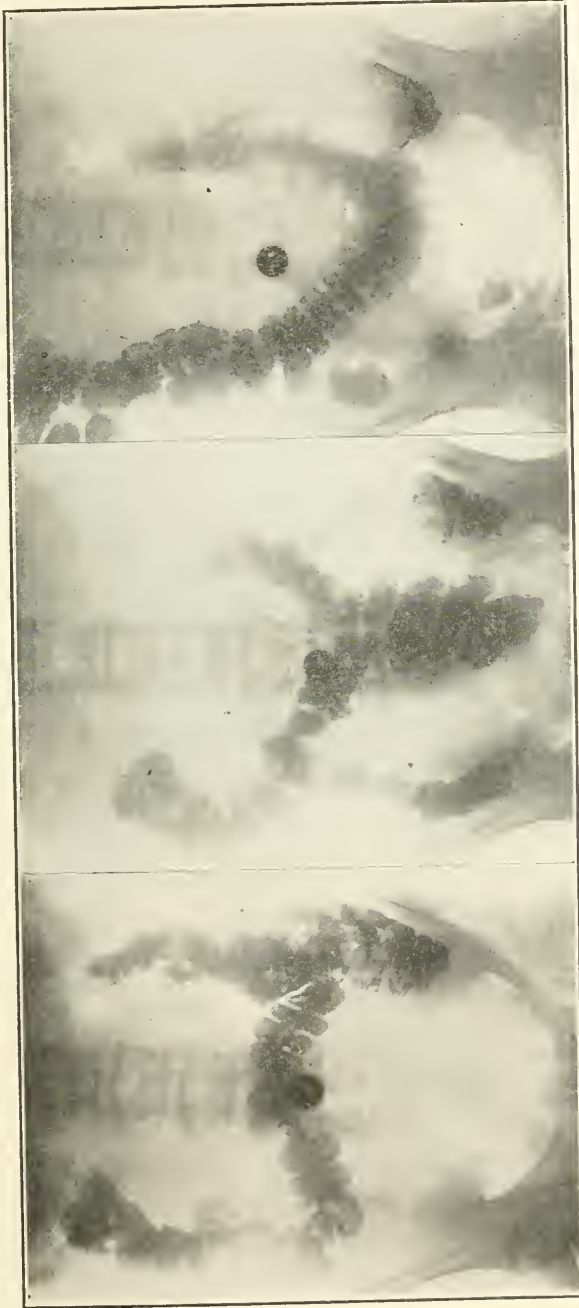
Let us follow an imaginary meal through a previously empty tract. Actual delay may take place in the stomach. Percussion or auscultatory methods will shed no real light, as a rule, but if the stomach is suspected as a primary factor, one or several meals can be aspirated with the stomach tube and its motility and the time of food retention be accurately determined. If the stomach is functioning properly, but the characteristic sounds are not heard in four or five hours at the ilio-colic region, the delay is of necessity occurring in the small intestine. A dull note should be heard soon after the appearance of these sounds, on percussing the cecum, which will disappear on placing the patient in the supine position. Two hours later the hepatic flexure should be reached and the area over the ascending colon will give a dull note, regardless of position. In several hours more this portion of the tube will no longer give a "dull note" if the hepatic flexure and the transverse colon is being normally invaded by the advancing meal. To discover, by either auscultation or percussion, if the passage through the transverse colon is progressing normally is usually quite impossible. The photographs No. 1, No. 2 and No. 3 illustrate how difficult it is, even with the X-ray, to locate the position of this portion of the gut at times, unless a series of pictures be taken. Again, its normal anatomical relationships prevent complete percussion or auscultation.

I have devised, however, a method meriting a certain amount of confidence which I have experimented with with fairly satisfactory results.

Hertz had demonstrated the emptying of the gut distal to the splenic flexure at each normal defecation. These experiments were carried out with the entire tract free from any food residue except what arose from a single charcoal-laden meal, and were inspired by Hertz's definition, that "Constipation is a condition in which none of a meal taken eight hours after breakfast is evacuated at the next defecation." These experiments verify the statement. Not waiting for 24 hours to elapse to discover if an "eight-hour-after" meal was found in the last part of the stool, I gave the subjects a high enema 11 hours after the test meal and observed if any charcoal-laden feces was immediately expelled. The method is well worth trying where time allows and the patient is willing, although its accuracy as a diagnostic aid is open to many just criticisms. * * *

The journey downward through the descending colon is a slow one, but the residue should reach the pelvi-rectal flexure in 14 to 16 hours.

As further additions occur to the mass, which is blocked at this acute angled flexure, the walls will become distended, the angle lessened and some of the mass enters the rectum. There is the call to defecate. As above mentioned, there is normally no



No. 1.

No. 2.

No. 3.

No. 1, No. 2 and No. 3 were taken from the same patient, and show clearly how the transverse colon may change position. Such a transverse colon cannot be located, and the progress of the content cannot be ascertained by percussion, palpation or auscultation. One X-ray alone would also mislead. In No. 2 there appears to exist adhesions binding the center of the transverse colon to pelvic viscera. No. 3 shows it to be merely redundant. Hepatic and splenic flexure adhesions appear to exist in No. 1.

fecal material in the rectum except just previous to defecation. If material is found to be there on digital or proctoscopic examination, there is excellent ground for believing that there is *an atony of the lower part of the tube* and that *complete evacuations are not taking place* of the content distal to the splenic flexure. Frequently the gut, laden with feces, can be palpated within the pelvis shortly after a defecation which was thought to be complete. * *

It is not my intention to cover all the methods in this short paper, but I have attempted to point out a few of them, which, if practiced generally, will prove of undoubted value as the practitioner becomes more skilled in these simple methods through the frequent use of them.



Plate No. 1: H. W.: Case No. 31.



Plate No. 2: H. W.: Case No. 31.

As an example, the X-ray photographs No. 1 and No. 2 were made in a constipated patient who was an exceptionally splendid physical specimen. There was a mild chronic gastritis, with a retention of food in the stomach due to an atonic condition which evidenced itself not immediately after ingestion, but which was discovered to come on about two hours after eating. The general health, notwithstanding the long duration of the trouble, was otherwise perfect. No explanation presented itself until it was discovered that although some of the gastric content, in fact most of it, left the stomach in good time, there was a *delay of several hours in the appearance of the sounds of arrival at the cecum*. A typhoid fever many years previously had left the adhesions seen in plate No. 1. The content was delayed in the end of the ilium. There

had never been an appendicitis or any abdominal pain. The blocking of the progress of the meal undoubtedly caused a distention of the ilium, and this was followed reflexly by a closure of the pyloric valve, although this blocking and distention did not cause any localized discomfort or pain to the patient.⁵

As regards atonic conditions of the colon: The colon is a very slowly-moving portion of the tube, and even the introduction of small amounts of food residue does not cause any material quickening of its inherent peristaltic movements. But when the walls have become distended there will be seen with the fluoroscopic screen an acceleration of the movements of the entire tube. In the same way it has been shown that the *greatest stimulation to colonic peristalsis is the ingestion of food*.⁶ There will be a greater onward march of food during the ingestion of a meal that has occurred during the three or four hours previous. Bearing this fact in mind, it will be quite clear why the hour following breakfast is the one to emphasize in teaching the patient to form correct habits.

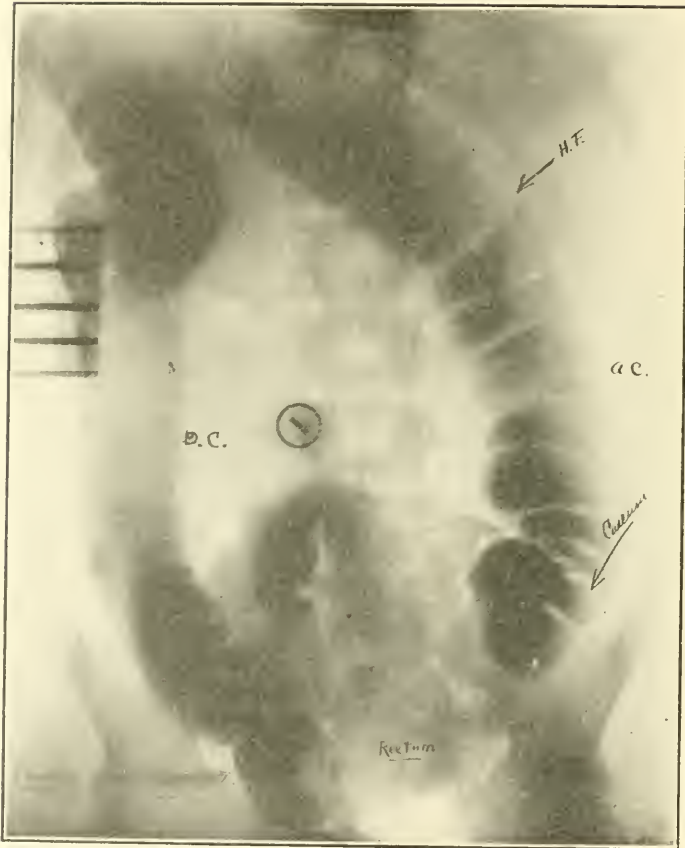
I cannot close without again pointing out a few of the reasons for discouraging the use of drugs in the treatment of constipation of the atonic or dyschezic type. In this condition the last portion of the colon becomes in a way an internal privy, which has for its floor the pelvic-rectal flexure, and for its walls a muscular tube, plentifully supplied with nerve cells and lined with mucous membrane. If there is an undue retention, too great an amount of moisture is absorbed from the contents. Additions take place, and when the distention is sufficient the acute pelvi-rectal angle is lessened in acuteness and some feces enters the rectum. The call to defecate follows. This sets up an active peristalsis in the colon, and other additions are received from above.

What is the result? The walls are stretched and the vascular supply is interfered with. The mucous membrane may atrophy, the nerve cells are pressed upon and degenerative changes take place. Although the call to defecate may come, there is not sufficient strength of muscle cells or response from the nerve elements to bring about the expulsion of the dried-up and hardened mass. There is an atony accompanying atrophic changes.

What can be done to remedy this? We must first of all endeavor to bring about a return of the blood supply, and to rest the tissues. This can only be done if the pressure on the walls is removed. A daily enema will empty this portion of the tube and will bring this necessary rest from pressure and stretching. Diet, drugs and habit are all fully dealt with in every textbook. But let us learn to appreciate the daily high enema and to value it as it deserves. We need not fear that we are washing away many valuable "heat units" of as yet unabsorbed food. Practically all

⁵Such a closure of the pylorus with the checking of the exit of the gastric contents was demonstrated experimentally by Tobler, Tobler, *Ztschr. f. physiol. Chem.*, 1905, Vol. XLV, p. 195.

⁶Hertz: *Constipation and Allied Diseases*, 1911.



Case No. 26. W. B. A case showing "the delay" principally at the splenic flexure: Bismuth injection; Bowels moved with aid of cathartics only every second or third week. Note also position of sigmoid and rectum, and lacking hepatic flexure angle, and distortion at splenic flexure. Patient enjoyed fair health, but complained of "being somewhat constipated." Daily high enemas, and agar-agar much improved patient after two months' treatment. He was then able to defecate three times a week without aid. Later old condition returned. Operation refused. In this case there was good progress up to the colon. With entire tract empty sounds were heard at ilio-colic region in five to six hours.

of the real energy and tissue-building elements have been absorbed long before.

We are fostering the return of blood to the part and are allowing it to rest up, as it were, and to regain its tone. Later it may be taught to do its work unaided. Surely daily enemas, over a long period very often, will do more to right matters than an occasional Johnstown flood let loose from above by either salines or cathartics.

343 Dolphin street.

UNCOMPLICATED PREGNANCY AND LABOR. Presenting a Simple Scientific Method of Treatment of the Disorders of the Pregnant Term, for Their Cure, and for the Prevention of the Complications of Labor, to Induce a Normal Balance of All Functions, so that a Labor Without Pain in a Very Large Part is the Result. By Finley Ellingwood, M. D., Chicago, Illinois, Author of Ellingwood's Materia Medica and Pharmacognosy, Ellingwood's Practice of Medicine, a Synopsis of Medical Chemistry, Manual of Urinalysis and Editor of Ellingwood's Therapist. Chicago: Ellingwood's Therapist, 32 N. State street. 1913. Cloth.

The purport of the above volume is that the complications and pain incident to labor are unnecessary evils contrary to the usually accepted notions of both the laity and profession. Doubtless the profession from long preconceived ideas and experience come to look upon certain phases of labor as part of its penalty and that those who escape are indeed fortunate. Ellingwood is of the opinion that many of these so-called accompaniments of the pregnant state as well as labor are absolutely unnecessary, and in the volume above mentioned has laid down rules and regulations which he states will to a large extent avoid these disagreeable features. He lays the blame for the apathy of the profession in this respect upon the difficulty in educating the patient to a realization that the pregnant state is a dangerous crisis in her well-being, that she is stepping upon dangerous grounds, that by a careful regulation of her daily life the ordinary dangers may to a large extent be avoided. He goes very thoroughly into the causes which result in the disorders of pregnancy and the methods of escaping them, likewise the proper hygienic management of the pregnant woman. The book, though small, is of a high degree of excellence and should at some future date be elaborated upon. Ellingwood has done a good service to womankind in general by calling attention to the woeful lack of resourcefulness of most of the profession when caring for those carrying child.

ETIOLOGY OF PHLYCTENULAR CONJUNCTIVITIS.

By *E. A. Knorr, M.D.*,

Surgeon to Presbyterian Eye and Ear Hospital.

and

H. J. Maldeis, M.D.,

Pathologist to the University Hospital and Presbyterian Hospital.

PHLYCTENULAR conjunctivitis is not only one of the oldest and most frequent diseases of the eye, but, among children, the most frequent, and has, in turn, excited the interest of the ophthalmologist, pediatricist and research worker.

The cause of the disease has not been definitely proven, and if we accept the prevailing idea that it depends upon an ectogenous and endogenous factor, it has not been shown to what extent either factor is involved.

The original conception of the disease as expressed by Chandler¹ in 1780 was that the phlycten was a vesicle caused by such ectogenous factors that usually produce vesicles upon the skin, such as hot acrimonious fluids, sun's rays and bites of insects.

Beer² described the disease in 1813 under the title of ophthalmia externa scrofulosa, and goes into detail in his description of the scrofulous child. This idea of Beer that phlyctenular conjunctivitis was dependent upon a general underlying endogenous factor was not only shared in by ophthalmologists of his time, including Heiling,³ Little⁴ and Lawrence,⁵ but existed up to 1875, and we find the disease described under the same title by Seitz and Zehender,⁶ Wells⁷ and Reindorf,⁸ and work done in recent years tends to strengthen this idea, although since the discovery of the tubercle bacillus in 1882 by Koch we cannot speak of scrofula as a distinct entity.

Among other views advanced concerning the etiology of phlyctenular conjunctivitis are:

Bacterial infection and its allied condition, eczema.

The exudative diathesis.

Indicanuria.

Under the influence of bacteriological investigation the view that phlyctenular conjunctivitis was due to a circumscribed ectogenous infection rapidly advanced, and numerous investigators, including Leber,⁹ Bach¹⁰ *et al.*, believed that they had discovered the exciting cause of the disease, viz., the staphylococcus pyogenes aureus, which was found in the conjunctival sac, and it was asserted by Bach that he had isolated it from the phlycten.

Burchardt in 1887 published his results in six cases of phlyctenular conjunctivitis; he isolated a coccus in two cases, inoculation of which into the conjunctival sac of dogs caused the development of phlyctens.

Straub examined six cases of phlyctenular conjunctivitis associated with eczema of the skin, and found the staphylococcus in all lesions.

Bach also produced the disease in dogs by inoculating the conjunctival sac with the staphylococcus pyogenes aureus, and be-

lieved that the phlycten and the eczematous lesion from which he also isolated the staphylococcus to be the same lesion dependent upon the same organism.

Numerous other organisms have been found in the conjunctival sac by Heilburn¹¹ and many others, such as the xerosis bacillus, pneumococcus, diplobacillus, etc. These organisms are only occasionally present in cases of phlyctenular conjunctivitis.

McKee¹² reports six cases of phlyctenular conjunctivitis associated with the diplobacillus, but does not believe that it bears any etiological relationship to it.

Yakahaschi¹³ claims to have isolated the streptococcus from the normal conjunctival sac in 30 per cent. of cases examined. He used a culture media containing horse serum.

We rarely see phlyctens develop in the ordinary forms of conjunctivitis due to Kock-Weeks bacillus, gonococcus, pneumococcus, diplobacillus, etc., but usually find the disease associated with eczema, impetigo contagiosa, pediculosa capitis and a generally unhygienic condition of the patient.

Pick¹⁴ inoculated the conjunctival sac of a dog with the contents of an impetigo vesicle, and in three days there developed a conjunctivitis with an eruption of phlyctens. He developed a pustule upon his own forearm by inoculation with the conjunctival secretion.

Von Michel¹⁵ considers the phlycten a lesion of eczema, and bases his opinion upon the analogy of the histology of the phlycten and the eczematous lesion of the skin.

That the toxins of various organisms alone are not capable of producing phlyctenular conjunctivitis, at least as far as rabbits are concerned, has been abundantly shown by Dr. Randolph.¹⁶

1. Stephanson¹⁷ found among 669 cases of phlyctenular conjunctivitis 53 per cent. affected with eczema.

2. *Indicanuria*. Indican is formed from indol, and is a product of proteolytic cleavage. Mackee¹⁸ recognizes three forms of indicanuria: 1, intestinal; 2, suppurative; 3, metabolic.

One is often puzzled to interpret the significance of indicanuria, for he has no sooner begun to attach importance to the presence of a strong indican reaction in certain cases, his faith in this as a sign of disease is shaken by the fact that he finds a strong indican reaction in the urine of some person who is apparently well.

Columbo¹⁹ reports that he had found indican in the urine in 42 out of 43 cases of phlyctenular conjunctivitis. This article was followed by another last year, when he reported 115 cases of phlyctenular conjunctivitis and keratitis, 82 per cent. of which showed either indican or urorosein in the urine.

This question has been looked into by von Hippel²⁰ and Stuelp.²¹ Von Hippel examined the urine of 416 patients suffering from all forms of eye disease, and only found 16 to show indican in the urine. Among this number 61 had phlyctenular disease, two of whom had indican in the urine.

Columbo noted the discrepancy between his results and those of von Hippel, and suggests that the 61 cases must have been something else.

Stuelp tabulates 511 cases, including all forms of eye disease except phlyctenular conjunctivitis. Eight per cent. showed indicanuria, and among this number many had definite causes for their eye disease, in addition to indicanuria.

Stuelp concludes that we cannot attribute to indicanuria an eye disease until we have excluded all other causes.

3. *The Exudative Diathesis of Czerny.*²² — The exudative diathesis of Czerny is a congenital defect of metabolism excited by overfeeding of fat, and manifests itself during the first year of life. The symptoms of this disease, besides phlyctenular conjunctivitis, are seborrhea, milk crust, lingua geographica, catarrh of the nose and throat.

This condition as a factor in the etiology of phlyctenular conjunctivitis has found some support in Schutz and Videky,²³ who seek to occupy a compromise position, attributing some cases to the exudative diathesis and the rest to tuberculosis. Thus in 61 cases of eye disease, including 49 cases of phlyctenular conjunctivitis, they obtained a positive von Pirquet in 72.7 per cent., negative in 27.3 per cent.

Schutz and Videky²⁴ further report their experience with 102 cases of phlyctenular conjunctivitis, and again divide them into two classes. Those caused by the exudative diathesis, provoked by a diet rich in fats and sugars, which do not react to the tuberculin test, but get well on an exudative diet; that is, a vegetable diet.

The second class react to tuberculin injection, and includes the greater portion. This condition, described by Czerny, has found but little support except that of Schutz and Videky.²⁵

Many research workers have applied themselves to this problem, and the trend of their effort has been to demonstrate the tubercular nature of the disease, as the phlycten anatomically bears a resemblance to the tubercle; in that it is a solid node, the center of which is composed of epithelioid cells surrounded by a wall of round cells, occasionally containing giant cells of the Langerhans type; it undergoes necrosis and ulceration. It differs from the tubercle in that it is vascular and tends to disappear, while the tubercle is avascular and tends toward chronicity; further, the phlycten is sterile.

New light was shed on this problem by the use of tuberculin as a diagnostic reagent subcutaneously and upon the skin.

Von Pirquet²⁶ has demonstrated the value of the tuberculin skin reaction. The following are the results obtained by several investigators in children having phlyctenular conjunctivitis, employing the von Pirquet test:

Weekers: 142 cases; 91 per cent. positive.²⁷

Bednarski: 100 cases; all positive. Rosenhauch, using Moro's

salve: 50 cases; 96 per cent. positive: 50 cases healthy children, 4 per cent. positive.

Many investigators have also noted that children react toward the tuberculin test by an eruption of phlyctens.

Schutz-Zehden,²⁸ two cases. Siegrist,²⁹ four cases, following the ophthalmo-tuberculin test. Moro and Doganoff,³⁰ four cases. Tobias³¹ reports infiltration in the cornea after subcutaneous injection. It was believed by some that tuberculin contained disintegrated tubercle bacilli, but Zieler,³² by painstaking effort, has shown that tuberculin is free from such remains.

That the phlycten is sterile has been shown by Müller,³³ who examined 25 phlyctens and failed to find tubercle bacilli. The same result was obtained by examining the scrapings of phlyctenular ulcers of the cornea.

Müller removed 20 fresh phlyctens from children having enlarged cervical glands, and implanted them into the anterior chamber of dogs. In 18 the phlycten was slowly absorbed without suppuration or tuberculous formation. One developed panophthalmitis, and one tubercle nodes in the iris. Many experimenters have tried, and with some success, to produce the disease experimentally upon dogs and guinea pigs.

Leber³⁴ injected sterile tubercle bacilli into the cornea, and succeeded in producing a keratitis which bore some resemblance to phlyctenular keratitis. His experiments of injecting tubercle bacilli in the blood failed to cause the development of phlyctens.

Bruns³⁵ injected sterile tubercle bacilli into the carotid artery of dogs, and also the same mixed with flour and graphite, and obtained the following results:

Material injected.	Death without changes.	Eye lost by necrosis.	Foci		No change.	Number of cases.
			Phlycten conj.	in iris and choroid.		
T. B. + flour	2	5	2	2	1	12
T. B. + graphite. 0		2	2	1	0	5
T. B. alone	5	3	1	2	5	16
Total	7	10	5	5	6	33

The five cases of phlyctenular conjunctivitis resembled the same disease in children, clinically and anatomically. The eyes lost by necrosis resulted from embolism of the ciliary arteries by the flour and graphite.

Rosenhauch³⁶ produced phlyctens experimentally upon dogs and pigs by injecting them with tubercle bacilli and inoculating the conjunctival sac with staphylococcus pyogenes aureus. The same experiment, using tuberculin instead of bacilli, gave the same result.

Rosenhauch also succeeded in producing phlyctens by the use of staphylococcus toxin and vaccine. In 22 control animals in whose

conjunctival sac were placed staphylococcus aureus, diplobacilli and colon bacilli but two developed phlyctens—diplobacilli cases.

Rupert's experiments were as follows: Ten dogs and 13 guinea pigs were injected with tubercle bacilli of the human and bovine type subcutaneously, intraperitoneal and intrapleural. Twenty-three days later tuberculin was instilled in the right conjunctival sac four times a day for three days. Result: Three dogs and two pigs developed phlyctens; two dogs and two pigs died during experimentation and several later after the development of phlyctens.

Staphylococcus vaccine was tried on four dogs and five pigs. Result: One pig developed phlyctens.

Massage on three dogs and four pigs. Result: No phlyctens.

Chrysarobin on five dogs and four pigs. Result: No phlyctens.

Staphylococcus toxin on six dogs and eight pigs. Result: One dog and one pig developed phlyctens.

Eight dogs and six pigs injected with tuberculin, and tuberculin instilled frequently in the conjunctival sac for two days. Result: No phlyctens.

Staphylococcus toxin also failed to cause the development of phlyctens. This experiment was repeated three weeks later with the same result.

Staphylococcus toxin and tuberculin was instilled into the conjunctival sac of healthy animals, animals rendered weak by starvation and others rendered anemic by bleeding. Result: No phlyctens.

Dr. H. J. Maldeis and myself repeated the experiments of Rupert, using a lesser number of animals and substituting rabbits for dogs, but were unable to cause the development of phlyctens. Perhaps rabbits are not susceptible to the disease.

The experiments of Rosenhauch and Rubert show that phlyctens can be produced experimentally which, clinically and anatomically, resemble phlyctens of human beings; that these phlyctens develop only in animals injected with tubercle bacilli or tuberculin; that the external irritant is not a specific nor bacterial one, having been produced by tuberculin and staphylococcus toxin. Against the bacterial origin of the disease is the work of Müller, who showed the phlycten to be sterile.

Traumatism is not a factor in the development of the disease, but it has not been demonstrated that other factors, such as chemical irritation, strong light or disease of the nose, are not factors in the production of the disease in individuals having a tubercular infection.

Concerning the question whether phlyctenular conjunctivitis is always a sign of tuberculosis, it can be answered by the statistics of Axenfeld, Weekers, Bednarski, Beer and others, who found from 88 to 100 per cent. of their cases reacting to the von Pirquet test.

Why this disease, depending upon a general infection and a local

irritant that comes in contact with the entire conjunctivitis, is a focal eruption, can be answered by analogy with acute infectious diseases, as measles, chicken-pox and syphilis, that manifest themselves by focal skin eruptions.

There can be but little doubt that the recurrent phlyctenular disease of children depends upon a tubercular infection.

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CORNEAL ULCERATION.

By C. J. Stallworth, M.D.

ETIOLOGY, SYMPTOMATOLOGY AND TREATMENT.

FIRST—I shall consider concisely the anatomical and physiological characteristics of the cornea.

This transparent structure is situated in the anterior aspect of the eyeball, being placed as if a watch crystal, upon the sclera. Entering into its makeup there are five layers. First, or epithelial layer, which is simply a continuation of the epithelium of the conjunctiva. This layer is loosely adherent to its underlying structure, therefore the ease with which a corneal abrasion is produced.

Second Layer—This is known as Bowman's membrane, or the anterior fibrous layer.

Third—This is the middle layer, or otherwise known as the substantia propria. This portion of the cornea is composed of fibrillae of connecting tissue, the interlacing of which go to make up the numerous lymph spaces, the nutrition of the cornea finding its way to this structure by way of these spaces.

Fourth—This layer is known as Descemet's membrane. It is a thin, a very resistant layer, sometimes remaining after a most severe ulceration of the cornea.

Fifth—This is the endothelial layer, and represents a portion of the lining of the anterior chamber. The cornea at its margin abuts with three membranes—the conjunctiva, sclera and uveal tract. There are no blood vessels. The nutrition is derived from the anterior ciliary vessels.

Nerves—The nerve supply is derived from the ciliary nerve, which gives off numerous branches; hence the sensitiveness of the cornea.

The function of the cornea, of course, is that of causing a convergence of rays of light which afterwards pass through the lens and are focused on the retina.

Corneal ulceration and inflammation, more commonly known as keratitis, is one of the most frequently observed eye conditions, and especially so in our free dispensaries, this fact being due largely to the class of patients with which we have to deal, poor hygiene and gross uncleanness lowering the vitality not only of the patient, but indirectly that of the cornea. I find that during the year 1912 there were 6000 eye cases treated at the Presbyterian Eye, Ear and Throat Hospital, and that over $5\frac{1}{2}$ per cent. of this number were corneal ulcers. The greater number of these were found in adults. The cornea is said to be less resistant to disease and trauma as age progresses.

During the course of an inflammation of the cornea we observe

three stages—first, that of infiltration, during which stage leucocytes migrate in hoards to the diseased area, gaining entrance both through the lamellae of the cornea and from the conjunctival sac, provided there be a primary ulcer. As a consequence of this deposition of cells the cornea loses its transparency, taking on a smoked-glass appearance. The subsequent fate of the infiltrate varies; either resorption or suppuration, resorption only taking place when there is not an excessive amount of this infiltrate. Suppuration, however, is the one with which we are most concerned. If the amount of exudate becomes incompatible with the maintaining and absorptive powers of the cornea, then we have a localized breaking down and ulceration of the latter structure, the process of disintegration beginning in the most anterior layer, this localized loss of substance being recognized as a depression, the diagnosis of which may easily be made either by oblique illumination or with fluorescein. This ulceration, bounded by floor and wall of infiltrated tissue, is now said to be in its progressive stage; later the boundaries of this area incapable of living are cast off. After this procedure the base and edges of the ulcer acquire a smooth and glistening luster. It is said now to be in its regressive stage. Almost invariably after a more or less severe ulceration there appears an opacity in the substance of the cornea. This histological process has been for many years the subject of most careful and zealous investigation, the leading authorities not being able to agree as to the origin of the cells or tissue which enters into the make-up of the opacity. Some maintain that the new tissue is due to an organization of leucocytes which remain following the ulcerative process, Cohnheim being the foremost advocator of this theory. Stricker and others think, however, that it is due merely to a proliferation and increase in density of the normal fixed cells of the cornea. I believe that both play a part in the opacity formation. Of course, the above is only noted after a destruction of the corneal stroma. When there is a destruction of the epithelial layer only, the opacity is short-lived.

The etiology, symptomatology and treatment will be considered in connection with each class of ulcers.

The Simple Ulcer—This ulcer occurs either at the corneo-scleral margin or upon the cornea itself, and is usually the result of some slight trauma or the breaking down of a phlyctenule. They are scarcely larger than a millet seed, and never become purulent. This form of ulcer is quite frequently noticed in infants, being due to alterations in nutrition, dentition and sometimes seen during the course of the mild eruptive fevers. In older children it is usually found in those who have developed strumous tendencies.

Symptoms—Pain, photophobia and lacrymation are among the most prominent, pericorneal injection sometimes being present.

Treatment—Locally, mydriatics are used to put the eye at rest, this not being necessary, however, in the less severe cases. Bichloride solution, 1-5000, every three hours is usually the only treatment necessary. In more pronounced cases, and especially those due to the breaking down of phlyctenules, a 2 per cent. salve of yellow oxide of mercury is very efficacious. Some advocate the subconjunctival injection of normal saline solution.

The cases of phlyctenular ulceration should always be treated constitutionally, frequently responding quickly to the administration of iodides in small doses.

Oculus Serpens, or more commonly known as serpigenous ulcer, is so designated from the insidious and creeping manner in which it spreads, and not, as many think, from its likeness to a serpent. This form of ulcer first appears as a yellowish-white disk, and presents itself most usually near the center of the cornea. The opacity of the disk, unlike the other form of ulcer, is greater around its edges. The surface of the cornea over the disk first appears as if somewhat elevated, but soon this opacity is seen to be depressed in the form of a shallow dimpling. The rest of the cornea almost invariably presents a steamed appearance. Concomitant conditions of this ulcer are severe iritis and quite marked hypopyon.

Etiology—An *ulcus serpens* originates in the infection of the cornea by virulent organisms, the pneumococcus being the one most frequently found. An almost unnoticeable injury to the cornea sometimes affords a portal of entry to these organisms.

Traumatic *ulcus serpens* attacks adults almost exclusively, and especially those belonging to the laboring class, not only because their occupations predispose them, but on account of the neglected state of their conjunctivae and lachrymal sacs. Stonemasons and farmers are especially predisposed to this condition. This recalls a case treated in the Presbyterian Hospital last October.

A man who had received a very slight injury to the cornea while harvesting wheat, later developed a most violent keratoiritis, which very nearly necessitated enucleation. This condition also occurs in the acute infectious fevers, being most frequently observed in variola.

Symptoms—This ulcer shows a marked tendency to spread; signs of violent inflammation are noted soon after the infection; the lids are swollen, marked circum-corneal injection, photophobia is quite pronounced, and so is the pain, which radiates toward the supra-orbital and temporal regions. Tenderness of the eyeball is also a frequent symptom.

NON-SUPPURATING ULCERS.

Dendritic ulcer is so named on account of its peculiar shape, not unlike the branches of a twig. It is slow in progress, running an

insidious course and rarely attended by the inflammatory reaction noted in other forms.

Etiology—The micro-organism which is supposed to cause this condition has not been isolated. It occurs most frequently in young people of low vitality, and older individuals with irregular habits and depleted constitutions.

Symptoms—They are similar to other forms, but, less severe.

Treatment—Locally a few drops of zinc chloride solution, one-half of 1 per cent. instilled three times a day, or a 4 per cent. formalin solution used at similar intervals. Scopolamine hydrobromate solution twice daily should also be used for mydriasis. The pain in this variety of ulcers is sometimes almost unbearable, requiring a hypodermic injection of morphia. Internal medication is also efficacious in this condition, strong mineral tonics being administered with excellent results.

MALARIAL TYPE OF ULCER.

This variety of ulcer occasionally occurs in persons who are or were sufferers with malaria. The ulcer has no characteristic shape, sometimes resembling very closely the dendritic type. The patient gives a history of malarial attacks, and the presence of malarial organisms in the blood confirms the diagnosis.

The symptoms are similar to those of dendritic ulcer with the exception of less severe pain.

Treatment—The administration of quinine and arsenic will cause it to disappear. Locally, a prescription containing—

R Hydrastine hydrochlorid, gr. ss.

Aquae rosae, ʒi.

Aquae laurocerasi, ʒii.

Aquae dist., ʒii.

Sig.—Bathe eye three times daily.

Ulcers are sometimes noticed during the course of gonorrheal ophthalmia and ophthalmia neonatorum, the prognosis of which is considered very grave when this complication is present. A loss of vision almost invariably follows.

Trachoma likewise is frequently complicated by ulceration of the cornea, the latter being followed by the condition known as pannus.

Herpes of the cornea frequently break down and form ulcers.

Vision is markedly impaired as a result of corneal ulceration, especially after the severe attacks, the opacity serving as an obstruction to the rays of light, and quite frequently a great deal of astigmatism is brought on.

Book Reviews.

PSYCHANALYSIS: ITS THEORIES AND PRACTICAL APPLICATION. By A. A. Brill, Ph.B., M. D., Chief of the Neurological Department of the Bronx Hospital and Dispensary; Chief Assistant in Psychiatry and Neurology at Columbia University Medical School; Formerly Assistant Physician to Central Islip State Hospital and to the Clinic of Psychiatry, Zurich. Octavo of 337 pages. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical Standard Book Company. 1913. Cloth, \$3.00 net.

Gradually the medical profession, both here and abroad, have come to realize that there is a large group of diseases, the so-called border line cases in mental diseases, the psychoneuroses, the understanding and treatment of which has been sadly neglected. The work and enthusiasm of a few pathfinders, however, have made known these deficiencies to an extent at least. By precept, example and constant writing, these observers have gradually awakened in the medical profession a sense of their shortcomings as regards these diseases until at last the wave of psychotherapy which has swept the Continent has made itself felt in this country. Abroad its adherents claim brilliant results, and one needs only review the works of the several schools to be convinced that psychotherapy is no empty term, but an actual branch of medicine, and in the psychoneuroses that it is the only effectual agent.

There are many schools concerning the nature of the psychoses and neuroses. The present volume deals mainly with that of Freud. Unlike other schools, this discards all generalities and confines itself to the individual. Freud as early as 1895 found that hysterical symptoms like neuralgia, paralysis, epileptiform attacks, etc., could be traced to actual psychic traumata which the patient could not consciously recall, but which could be readily demonstrated when the patient was put in the hypnotic state. In other words, the hysterical manifestations were not accidental, but had an actual cause. The connection between cause and effect was often quite obvious. The author cites the following example: "A very sick child falls asleep and the mother exerts all her will-power to make no noise to awaken it, but just because she resolves to do so she emits a clicking sound with her tongue (hysterical counterwill), which was repeated on another occasion when she wished to be absolutely quiet. This developed into a regular tic which lasted for years. In other instances the connection is not so simple, thus psychic

pain may cause a neuralgia, etc." Freud concluded that these psychic traumata, or the memory of the same, act like foreign bodies in consciousness, and even long after their occurrence continue to influence like causative factors.

According to the writer this fixation of the psychic life on the pathogenic traumas is one of the most important, and, from a practical viewpoint, one of the most significant characters of the neurosis. The treatment consists with the patient under hypnosis, of reconducting the excitement from its false paths to the original conscious idea and then by working it off by means of intellectual labor and speech. Freud found one drawback to this treatment, namely, all patients are not hypnotizable. This led Freud to avoid hypnotism, and to adopt a procedure which he called the psycho-analytic method. He found that the urging and assuring patients that they did not remember the first motive of the symptom in question, that they would finally recall the pathogenic ideas without hypnotism.

The book enters into a thorough analysis of the psychoneuroses, dreams, the actual neuroses, obsessions, doubts, phobias, psychological mechanisms of paranoia, etc., etc. It is a philosophical work, not only well but entertainingly written. The author certainly writes with conviction and those who read will unconsciously come around to his beliefs, as the theories which are expostulated are reasonable and tenable. The book is something out of the ordinary, and should open up new avenues of investigation in the subjects treated, as well as hope of relief to those unfortunately affected with a neurosis of one form or another. Every neurologist should make a careful study of its contents, and general practitioners will be materially benefitted by familiarizing themselves with its precepts.

THE SURGICAL CLINICS OF JOHN B. MURPHY, M.D., AT MERCY HOSPITAL, CHICAGO. February, 1913. Volume 11, No. 1. Philadelphia and London: W. B. Saunders Company. Published bi-monthly. Paper, \$8 per year.

As in the former issues of this publication, so with the present a great deal of space is devoted to bone surgery, in which line of work Dr. Murphy stands at the head of the American profession. The open treatment of fractures, osteitis of femur, luxation of semilunar cartilage, floating cartilage, arthrodesis, decompression, fracture and luxation of the neck of the humerus, laminectomy, etc., are thoroughly treated from the surgical standpoint. Dr. Murphy's results in bone surgery are so unique and epoch-making that the general surgical profession is indeed fortunate to be able to procure his experience at first hand and in such condensed form. The up-to-date member of the profession can ill-afford to be without the clinics as a regular bi-monthly visitor.

MARYLAND MEDICAL JOURNAL

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BALTIMORE, APRIL, 1913

ALIMENTARY INTOXICATION.

DURING the past few years alimentary intoxication has been recognized as the causative agent in many of the obscure ills of mankind. The term, however, is obscure, as it includes poisonings of many varieties and kinds and from any part of the digestive canal. As these poisonings, which include bacterial, food and drugs, are capable of setting up such a variety of ills, it well behooves the medical profession to try to evolve order out of chaos. With this idea in view, W. Hale White of London, in the *British Medical Journal*, in an article on intestinal toxemia, says that the term itself shows our ignorance, for it is unscientific to group cases of poisoning according to the point of entrance of the poison. He emphasizes the importance of classifying alimentary poisoning according to the character of the poison rather than the portal of entrance, as it is a minor matter whether a murderer comes in through the window or a door. We subscribe heartily to his conclusions. Further, he iterates the term is too wide. An illness due to any poison absorbed anywhere from the mouth to the anus is strictly an alimentary toxemia, but the phrase should not cover a case of opium poisoning. Equally as confusing is the practice of speaking of the ills from the ingestion of infected food as food poisoning, not food toxemia. On the other hand, when the ingested food is not infected by pathogenic organisms, but makes the person who eats it ill, he is said to be suffering from intestinal toxemia; for example, a person who has urticaria after eating strawberries. The author, therefore, is of the opinion that the users of the term wish to convey the idea of a disease due to poisons made by micro-organisms resident in the alimentary tract, but with our present knowledge we can neither name the poison nor the offending micro-organism, and until such a time as we

can we will be working more or less in the dark. Much work has been done along the line of clearing up the obscurity of intestinal intoxication, especially in its treatment, such as the use of aperients in stasis, as well as Lane's short-circuiting operation of the intestinal canal, but as yet no entirely satisfactory plan of procedure has been evolved.

THE TREATMENT OF PHTHISIS BY ARTIFICIAL PNEUMOTHORAX.

THE treatment of pulmonary tuberculosis by artificial pneumothorax has of late been receiving marked attention by the medical profession. There are many who favor the procedure and just as many others who condemn the method. At any rate, the treatment is such a recent innovation that more time will have to pass before its place in our therapeutics can be definitely determined. Along these lines the work of Molon (*British Medical Journal*) will be of interest to our readers. In the *Gazz. degli Osped.* he gives his experience in this treatment in 45 cases. In 12 he was unable to induce pneumothorax owing to extensive pleural adhesions. In three the treatment had to be abandoned owing to the onset of complications. In six severe cases with bilateral lesions, after a period of improvement, the lesion on the non-operated side increased so rapidly that the treatment had to be discontinued. In three marked improvement followed, though, owing to adhesions, satisfactory pneumothorax could not be induced. In three the improvement was so marked that the patients left the hospital and refused further treatment. In 18, excellent results were obtained, and treatment is still being carried out. Four refused to continue treatment owing to the pain of the stretched adhesions. In the 33 in whom the treatment was thoroughly tested, 24 were improved. The author is thoroughly convinced that pleural adhesions offer the greatest difficulty to instituting this mode of treatment. He found the best regions for the injection of the gas to be the axillary and the infrascapular, and a right-sided pneumothorax better borne than a left. The amount of gas introduced varied from 100 c. c. to 1000 c. c., according to the tolerance of the subject. The best results were obtained in the unilateral cases, but treatment had to be carried out for over a year.

Medical Items.

THE General Alumni Association of the University of Maryland tendered a reception to Dr. Thomas Fell, the new Provost, at the Hotel Remert, on the evening of Thursday, March 27, 1913.

DR. JOHN C. HEMMETER was the guest of honor at a large dinner given by Dr. William Gerry Morgan of Washington, D. C.

THE long contemplated union of the Medical School of the University of Maryland and the Baltimore Medical College has been accomplished, and after the 1913 commencement all future graduates will receive the University diploma. Under the new plans Drs. A. C. Pole, Charles G. Hill, David Street, John D. Blake, Samuel K. Merrick, J. Frank Crouch, J. M. Rowland, Charles O'Donovan, G. Milton Linthicum, Ridgeley B. Warfield, Walter B. Perry and Tilghman B. Marden are now professors in the University of Maryland.

DR. DAVID A. MEDDERS, formerly of Baltimore, was forced to flee from his home in Omaha, Nebraska, during the recent cyclone there. Dr. Howard V. Dutrow, a graduate of the University of Maryland, is supposed to be marooned in the Y. M. C. A. Building in Dayton, Ohio, and much anxiety is felt for his safety.

DR. PAGE EDMUNDS is spending some time in Bermuda. Dr. Edmunds is recuperating from an infected arm, contracted from a patient, and is taking a rest on that account.

THE engagement is announced of Miss Amelia G. Nixon of Baltimore and Dr. Colvin R. Reynolds of Clifton Forge, Va. The wedding will take place in June.

DR. THOMAS H. BUCKLER made a speech recently before the Labor Committee of the Delaware Senate in defense of the Ten-Hour Law now before that body.

DR. CECIL DABNEY, University of Virginia, class of 1910, has left for China to engage in missionary work under the direction of the Protestant Episcopal Church.

DR. MARY BAER, superintendent of the hospital at Charika, India, is under treatment in Baltimore for an infected arm.

DR. CLARENCE B. FARRAR has resigned his position in the Sheppard and Pratt Hospital

to accept a similar one in the New Jersey State Hospital, Trenton, N. J.

THE regular health wardens by wards are as follows:

Ward 1—Dr. O. L. Long, 2701 Eastern avenue.

Ward 2—Dr. H. E. Laroque, 2040 East Pratt street.

Ward 3—Dr. August Pahnisano, 316 South Exeter street.

Ward 4—Dr. H. K. Gorsuch, 117 West Saratoga street.

Ward 5—Dr. J. E. Heard, 202 Aisquith street.

Ward 6—Dr. J. T. Spicknall, 2112 East Baltimore street.

Ward 7—Dr. A. L. Rettaliata, 1038 North Broadway.

Ward 8—Dr. J. W. France, 1407 North Gay street.

Ward 9—Dr. C. T. Buckner, 1337 East North avenue.

Ward 10—Dr. B. Wess, 914 East Biddle street.

Ward 11—Dr. C. E. Downes, 1122 Madison avenue.

Ward 12—Dr. E. A. Munoz, 1801 Guilford avenue.

Ward 13—Dr. J. H. von Dreele, 846 West 36th street.

Ward 14—Dr. E. K. Ballard, 1622 Mount Royal avenue.

Ward 15—Dr. C. F. Jones, 1744 West North avenue.

Ward 16—Dr. G. A. Thiede, 1530 West Lanvale street.

Ward 17—Dr. G. W. Hemmeter, 800 Harlem avenue.

Ward 18—Dr. F. H. Vinup, 1221 Hollins street.

Ward 19—Dr. J. H. Ulrich, 22 North Carey street.

Ward 20—Dr. W. A. Knell, Augusta avenue and Frederick road.

Ward 21—Dr. A. E. Muse, 1000 West Cross street.

Ward 22—Dr. J. E. Poulton, 615 Columbia avenue.

Ward 23—Dr. C. P. Erkenbrack, 1412 Light street.

Ward 24—Dr. C. B. Whelple, 1279 William street.

DR. CHARLES W. YOUNG, professor of bacteriology and pathology in the Union Medical

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College in Pekin, China, is a recent visitor to Baltimore.

DR. GEORGE WALKER has been appointed a member of the State-Wide Vice Commission.

DR. WILLIAM E. WIEGAND is taking a trip through Florida and Cuba.

TWENTY-FOUR temporary health wardens have been named to assist in the general vaccination ordered for Baltimore city. They are as follows:

Dr. W. DeF. Olmstead, 1832 West North avenue.

Dr. John Wade, 118 South Broadway.

Dr. Joseph J. Valentini, 16 South Broadway.

Dr. Henry W. Weinberger, 724 West Fayette street.

Dr. M. Chideckel, 216 North High street.

Dr. J. Knox Insley, 2938 East Baltimore street.

Dr. John Girdwood, 102 East 20th street.

Dr. Frank J. Powers, 2511 East Preston street.

Dr. H. Young Westbrook, 237 Gorsuch avenue.

Dr. Frank J. Sebald, Aisquith and Eager streets.

Dr. Henry E. Gale, 260 West Hoffman street.

Dr. Benjamin McCleary, 404 North Payson street.

Dr. J. J. Morrissey, 3632 Roland avenue.

Dr. Charles P. Clautice, 548 Mosher street.

Dr. Henry C. Honck, Appleton street and North avenue.

Dr. H. F. Skillman, 1304 West Lafayette avenue.

Dr. Louis L. Lloyd, 641 West Franklin street.

Dr. R. A. Warner, 110 North Carey street.

Dr. J. C. Pound, 1302 West Lombard street.

Dr. M. A. O'Neill, 108 North Fulton avenue.

Dr. Thomas A. Stevens, 1220 West Cross street.

Dr. Frank O. Barrett, 10 North Carey street.

Dr. Otto M. Reinhardt, 1017 South Charles street.

Dr. J. L. Turlington, 102 East Fort avenue.

MARRIAGES.

JOSEPH ALBERT CHATARD, M.D., Johns Hopkins Medical School, '03, to Miss Alice Marie Whelan, both of Baltimore, at Baltimore, March 26, 1913. This marriage is of special interest, as both father and grandfather of the groom have been well-known Maryland physicians.

EMIL NOVAK, M.D., Baltimore Medical College, '04, of Baltimore, to Miss Elizabeth Grace Rogers of Jamaica Plains, Massachusetts, at Jamaica Plains, March 24, 1913.

EDWARD ELI SOLLARS, Maryland Medical College, '10, of Deer Park, Md., to Miss Mary Myrtle George of Oakland, at Mountain Lake Park, Md., March 4, 1913.

DEATHS.

JOHN SHARTLE, M.D., of Welsh Run, Pa., died in Hagerstown, Md., March 12, 1913, aged 54 years.

ROBERT H. CAMPBELL, University of Maryland, '89, died at his home in New Orleans, La., March 18, 1913. Dr. Campbell was formerly of Rockville, Md.

ISRAEL W. FULTON, M.D., Washington University, Baltimore, '72, died at his home in Ardmore, Pa., February 14, 1913, from pneumonia, aged 66 years.

ULYSSES P. WHITE, M.D., College of Physicians and Surgeons, '94, died at his home in Artesia, N. M., February 3, 1913, from cerebral hemorrhage, aged 47 years.

JOSEPH T. JARBOE, M.D., College of Physicians and Surgeons, '89, died at his home in Hagerstown, Md., February 11, 1913, from nephritis, aged 58 years.

CHARLES S. BROWER, M.D., College of Physicians and Surgeons, '80, of Phoenicia, N. Y., died in Kingston, N. Y., December 15, 1912.

SAMUEL WHITFIELD HARTT, M.D., College of Physicians and Surgeons, '89, died at his home in Seattle, Wash., February 5, 1913, from pneumonia, aged 47 years.

GEORGE H. WITTER, M.D., College of Physicians and Surgeons, '85, died at his home in Wellsville, N. Y., February 13, 1913, aged 54 years.

JAMES DANIEL COX, M.D., College of Physicians and Surgeons, '92, died at his home in New Salem, Pa., March 9, 1913, aged 51 years.

PRICE W. ATKINS, M.D., College of Physicians and Surgeons, '78, died at his home in Marion, Va., March 2, 1913, aged 57 years.

ISAAC ALLEN FETHERLOF, M.D., College of Physicians and Surgeons, '77, died at his home in West Milton, Pa., February 16, 1913, aged 62 years.

JAMES EVERARD MASSEY, M.D., University of Maryland, '71, died at his home in Rock Hill, S. C., January 20, 1913, aged 64 years.

Coffee Drinking Dissipates Energy

Any article of diet taken into the economy which acts as a "whip" to flagging energy, is but temporary in its *apparent* benefit. In the end, it *subtracts* from the *total energy* of the individual. This, in the case of Coffee, is the manifestation of the law of alkaloidal "action and reaction;" caffein being the alkaloid in coffee.

The temporary *feeling* of increased energy, after having taken the usual cup of coffee (or two cups) is, in a large majority of individual cases, soon followed by a feeling of lassitude which more than counter-balances the temporary "spurt" of *artificially* aroused activity of mind or body. Hence, we may truthfully affirm that, in summing up its effect, coffee drinking dissipates energy.

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The *Clinical Record*, for physician's bedside use, together with samples of **Instant Postum**, **Grape-Nuts** and **Post Toasties** for personal and clinical examination, will be sent on request to any physician who has not yet received them.

Editorial Comment.

THE PRESENT TREND OF MEDICAL JUDGMENT IN REGARD TO THE OPERATIVE TREATMENT OF EXOPHTHALMIC GOITRE.

Interstate Medical Journal.

WE know little of the pathology of this disease. While most observers agree that the change in the thyroid gland is a part of the picture, nevertheless there is much confusion of testimony as to just what these changes are; and, furthermore, there are those who deny that a specific change in the thyroid tissue is an essential of the syndrome. With regard to the specific functional changes in the thyroid and in other structures, such as the brain, the hypophysis, the thymus, adrenals, lymphatic tissue, our knowledge is still more chaotic, or, better, our surmises.

On the clinical side of the question we are in a somewhat better established position, but even here there is some lack of agreement as to the details of the syndrome, and the answers to the therapeutic question have been most divergent.

On the one hand, a large element of the clinical picture is made up of symptoms that may be designated as nervous and which can be improved by proper hygienic and dietetic treatment, and it has been maintained by many that the improvement following surgical interference is either coincident or is the result of mental impression.

On the other hand, the rationale of the operation is based almost wholly upon a rather evident overactivity in the blood supply of the thyroid gland and the clinical results following operation. Until somewhat lately quite a large proportion of the medical profession has not been willing to accept the latter part of this evidence as conclusive.

Add to this the fact that, without the exercise of the best judgment and technical skill, the operative treatment is not free from a large mortality, and that successful surgical results are but in a small percentage of cases the restoration to full normal health, it can readily be understood why the medical profession, as a whole, has not accepted surgery in this disease as readily as it has in many other diseases where the indications and the results were less equivocal.

The most potent factor that has held many fair-minded and carefully observant medical men aloof from surgical treatment is the operative mortality already referred to, and it is particularly unfortunate that until repeated disaster has driven the surgeon to a very careful and deep study of every phase of this subject the operative mortality is liable to cast serious discredit upon the procedure.

It has been the experience, as related to us by a number of medical men, that at some past period, not content with the results of hygienic, cytolytic serums and other forms of medicinal treatment, they were led on, by the comparatively brilliant results of certain surgeons, to turn for help to their surgical friends, only to find that the advice was fatal to their patients. Concluding that any treatment was better than this, these men returned to nursing their



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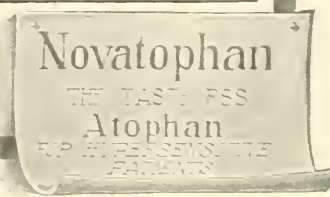
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patients along, and, in each instance, it was some years before they again began to consider surgery as the best available solution.

But while the medical man was learning that ordinary surgery was not good exophthalmic goitre surgery, the surgeon was learning, in a large measure, how to recognize and avoid fatal errors. At present the confidence of medical men is being gradually restored, and they are again regarding surgery a lesser evil than the disease.

With regard to hyperthyroidism, surgery has been through a long and grilling trial, during the course of which the odds have not always been in its favor; but purely medicinal and hygienic treatment is not satisfactory, and cytolytic serums have not made good. We believe today that the rather general verdict is that though surgery alone is not the best treatment of the syndrome, the best cannot be effected without surgery until some better means is found, and that it is the surgeon's duty, and to the interest of the patient, the medical profession and himself, to foster by the surgeon's results the present attitude of growing confidence.

THE QUESTION OF FEES.

The Medical Standard.

THERE has been a discussion of surgeons' fees in the *New York Times* that has really been interesting, since laymen and medical men alike have participated in it. Some of the arguments have been exceedingly ingenious, even if they have not quite carried conviction. Such an one is found in the letter of a contributor who signs himself "Visitor" and who is called by the editor an "eminent surgeon:"

"I am a surgeon, and have no sliding scale. Every operation of a certain kind justifies a fee of \$50,000. If a man cannot pay it, I make him a present of the difference between that amount and what he can pay comfortably.

"A banker often pays the lawyer \$10,000 for investigating the security of a set of bonds, and there is no question about the fee. How often will the same banker pay the surgeon \$10,000 for his investigation of the security of a certain operation which saves life and bond business and all? Never, in my experience, without questioning the bill, injuring my reputation and causing me indirectly such a loss that I could better have treated him for nothing. The principle of fundamental character is that property is held to be more valuable than life. From a sentimental point of view, life is held to be more valuable, but basically, in nature's plan, property stands first.

"I have never heard of a case in which a surgeon of standing rendered a bill that was too large. Even the comparatively small bills are questioned by the rich to such an extent that we would rather care for the poor. I have seldom had a bill for \$5000 paid with such good grace that it was any pleasure to receive the money. I have had thousands of bills for \$100 paid in a spirit which made it a joy to receive the money. Why, then, do we not always send bills that will bring us joy with the money? It is because we think too highly of our profession to degrade it. Our duty toward the public, toward the patient and toward our profession stands in the way of our doing that. We do not need much money for our-

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selves, but we need much money in order to give to the poor that which the wealthy refuse to give or do not know how to give."

We have omitted a number of paragraphs from "Visitor's" letter, but those printed really present the central thought in the argument, which is that the surgeon is justified in charging the few enormous fees because he gives free treatment to the many. Around the latter service he throws the mantle of charity, with a certain smug self-approval of his own good works.

There is a false note in all this. This surgeon knows very well, as do all like him, that the charity work he does is rarely performed for sweet charity's sake. The dispensary, college and hospital appointments, which carry with them nine-tenths of this free surgical treatment, are eagerly sought by the ambitious men of the profession because they give opportunities for experience, prestige and preferment. These eminent surgeons also know that nine-tenths of the people who seek and secure this free treatment are able to pay something at least to the financially poor men of the profession, who are kept poor and are deprived of the experience and support they need by the hoggishness of their eminent brethren, who demand haloes for righteousness' sake!

Suppose we carry the argument of "Visitor" a little further. If it is worth \$50,000 to relieve a millionaire of his appendix, it is worth just as much to cure him of typhoid fever; just as much to arrest an incipient phthisis; just as much (and in his heart he may say more) to cure his gonorrhea! Apparently among them the specialists would be "justified" in stripping any man of all he had simply because (as we all admit) life is the most precious of our possessions. The thing reduces itself to an absurdity.

Our surgeons' fees are high enough. It is quite unnecessary for these ingenious men to devise new plans for boosting them still higher. It would be far better to establish scales of prices so adjusted to the earning capacity of the different classes of society that the men who work for a small wage could pay their own way with the surgeon, just as they do at the grocery store, without taking leave of their self-respect.

THE MODERATE DRINKER.

Long Island Medical Journal.

THE presence of alcohol in some form from the beginning of recorded events has graced the table of hospitality, and its use through custom has become a seeming requisite of honor to the welcomed guest. The fleeting exhilaration consequent upon its use undoubtedly creates a spirit of cordiality and fraternalism; artificial, it is true, but charmingly delightful to the poor devil who, free from the stressing importunities called forth by his struggle for existence, finds himself in an atmosphere of merry abandon, roscate with opportunities and bewilderingly pleasant. Verbiage as light and frothy as hillocks of sea foam nestling upon the beach falls upon his ear as scintillating wit, and to him "For He's a Jolly Good Fellow" possesses a melody sweeter by far than Verdi's classic "Holy Mother Guard His Footsteps." We who have participated in such inanities and insanities for which, O Bacchus! you were responsible and we the willing worshipers, must in the future quaff the sparkling fluid servant to Moses' rod if we desire to preserve the highest standard of our natural endowments, ac-



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cording to Col. Louis Mervin Maus, Medical Corps, U. S. A., Chief Surgeon, Eastern Division, who, in a paper entitled "Should Total Abstinence Be Required of Officers in the Military Service?" read at the meeting of the military surgeons of the United States held recently in Baltimore, forcibly advocated the adoption of the affirmative answer to his query. Col. Louis Mervin Maus commenced his dissertation by humorously alluding to his past minor transgressions against the law of total abstinence, thus disarming any possible criticism, and "many who came to scoff remained to pray," listened with rapt attention to the doctor's words.

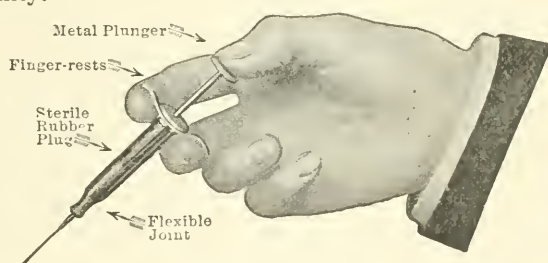
He conclusively proved by competent scientific authority that former opinions of alcohol had been revolutionized through laboratory and psychologic research. We all recognize the lamentable effects of hard drinking, but that it is difficult to convince the moderate drinker—the man who drinks two or three times a day—that he exceeds the safety limit to body and mind. When warned he will reply: "Why! whiskey in moderation is a stimulant and food." A traditional fallacy. Exhaustive experimentation has shown that it is a depressant after its primary stage of excitement. The influence of alcohol on the nervous system continues from 24 to 72 hours, and affects thought and action during that period. It does not relieve fatigue through stimulation, but by deadening sensation. The typical effects observed in moderate drinkers are a weakening of the higher functions and a corresponding exaggeration of the lower ones; a loss of mental alertness and the finer conception of originality; a lowering of the moral standard and lessening of self-restraint; that it makes men less cautious and impairs judgment and ability to arrive at normal conclusions. The once brilliant mind fades away to be replaced by lowered moral tone. The health of cells depends upon the condition of the nuclei and protoplasm. Alcohol is a protoplasmic poison inhibiting cell growth, restricting the production of anti-bodies and neutralizing the action of the bacterial toxins in the blood. Sir Benjamin Richardson showed that under the influence of alcohol temperature was lowered from three-quarters to three degrees. Nansen and all other explorers inveighed against alcohol in frigid climates.

In summarizing, Dr. Maus said "that after a careful study of alcohol as a beverage he was unable to find one single beneficial or useful purpose it serves in the human economy; on the other hand, even in moderate quantities, it reduces everyone's efficiency and impairs mental and physical conditions. Medical officers, the proper performance of whose duties involve the safety and lives of others, should especially be debarred from the use of alcoholic drinks so as to conserve their mental capacities to the fullest extent. In view, then, of our knowledge of the subject, has the Government the right to prohibit the use of alcohol amongst public servants. Every officer who accepts a commission in the army and navy relinquishes in part his civil rights and personal liberty. In orders, commands and duty the Government provides ample pay and allowance, and obligates itself to pension officers on age and length of service or for mental and physical disability contracted in the line of duty. For this reason we hold that the Government has the right to require every officer and enlisted man to safeguard himself against disease and vicious habits inimical to health and efficiency. Sanitary orders are issued guarding by modern means

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against amebic dysentery, cholera, typhoid fever, smallpox and diphtheria. Why not enforce abstinence of alcohol, which is the underlying cause of venereal diseases, impaired health and non-efficiency in public servants? In answer to interference with personal liberty, one's rights only invite activities that are not detrimental to others or communities."

Few will attempt to controvert Colonel Maus' deductions that alcohol is not necessary to the human economy, that man maintains a better correlation of bodily metabolism when totally abstemious, that even in moderate quantities alcohol is destructive to all life. Logically, then, we must agree with the Colonel that when the lives of others—in fact, communities and counties—are imperiled by reduced efficiency of those in charge, the cause of this inefficiency should be removed. Military officers and medical men are ever the subjects of emergency calls involving life and death. There is no gainsaying the proposition that they should be in full possession of their mental powers when such a demand is made upon them. The practice of moderate or occasional drinking is not so bad in itself, but the temptation at times to exceed moderation is very great. Therefore, a habit of total abstinence is a safeguard. To look for universal teetotalism is but a chimerical, idle dream, but to hope for teetotalism amongst men of intellect entrusted with gravest responsibilities, possessing a conscientious regard for a divine duty, is not a far-fetched thought. It may be slow of growth, but conscience will ripen its fruition and the ideal be realized.

COMMISSIONS TO INVESTIGATE ANIMAL EXPERIMENTATION.

Long Island Medical Journal.

MANY practitioners in this country have considered it unnecessary to fight the various propositions made by the anti-vivisectionists to have committees appointed to investigate laboratories where medical research is being carried on. They can see no harm in allowing these investigations to be carried on. They do not realize, however, that the committees appointed for such investigations are generally made up of persons who are entirely ignorant of the true purpose of research work and incapable of judging the degree of suffering which the experiments cause. Even this objection has been overcome in England, and commissions have been appointed which are capable of judging such matters wisely.

The result of these investigations in England has twice been favorable to the continuance of animal experimentation, and yet, despite the fact that the verdict of the commissioners was overwhelmingly in favor of the experimenters, they supply the illogical and untruthful leaders of the anti-vivisection movement with much material for misrepresentation.

In 1875 Queen Victoria appointed the Royal Commission to investigate the medical laboratories of Great Britain, and that commission found no abuse of the privileges granted to the medical men. The report, however, was followed by the passage of a restricted law which has greatly hampered research work in England. All this, of course, seems illogical, and yet it is a fact that if these commissions are appointed the result of their investigations, whether they are favorable or not to the research laboratories, still have acted harmfully to the profession.

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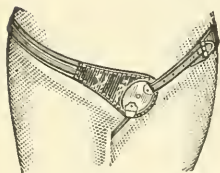
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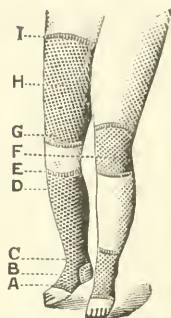
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This fraud, which was exposed at an action tried before the Supreme Court of Victoria at Melbourne, and others reported before in the medical literature, show that every physician should see that his patient gets exactly what he prescribed. No "just as good" allowed.

Reading Notice.

It is during the spring months more particularly that the physician is called upon to treat patients, who, though not ill enough to be in bed, are not at all well. Their appetite is capricious, they sleep indifferently, or even if they sleep soundly they are not refreshed, and in the morning they are almost as fatigued and ill at ease as was the case on retiring. Upon awakening there is frequently an aching sensation in the loins, sometimes in the lower limbs, which may partially wear off as the day progresses, but there is at all times a vague, undefined, uneasy painful feeling.

The symptoms are very much like those experienced in malaria, but the causes are entirely different and a different treatment is necessary.

This condition arises from the fact that in the spring the eliminative functions do not present their usual activity, owing to the torpor and locked-up secretions which have existed during the winter months, when the skin neglects its duties and the kidneys are overworked.

If the condition remains neglected the probable result will be sooner or later a pronounced attack of rheumatism or grippe in one or another of its forms. All that is needed to induce such an attack is a sudden change in the weather or the exposure on the part of the patient to cold or wet, or to a combination of

both. This is due to a latent diathesis to which every adult is liable.

The necessity of a powerful eliminative in every prescription for rheumatism and grippe is self-evident. While anti-pyretics and anti-periodics may slightly stimulate the excretions and relieve congestion, thereby controlling certain features of the disease, a complete cure cannot be expected until the poisons are thoroughly eliminated from the system and the diseased organs enabled to resume normal functions.

In the treatment of all rheumatic, neuralgic and grippy conditions, Tongaline, by promoting the absorptive powers of the various glands which have been clogged, and by its stimulating action upon the liver, the bowels, the kidneys and the skin, will relieve the pain, allay the fever, eliminate the poisons, stimulate recuperation and prevent sequela.

The Tonic Effects of Hypophosphites.

THE choice of a tonic for the young is determined by special considerations, because their requirements differ in several important respects from those of adults. The interference with nutrition that arises from acute pyrexial infections is attended by particularly serious consequences in the young, because their growing tissues are less stable and their mineral constituents are less "fixed," so that the disintegrating effects of exaggerated oxidation are much more rapidly produced.

The requirements of the youthful organism in the matter of inorganic salts are much greater than those of later life, because not only has the ordinary wear and tear to be provided for, but also the demands of growth. Acute disease, as we know, is characterized by more rapid oxidation and exaggerated metabolism, and the latter, in turn, is associated with wasteful leakage of the mineral constituents of the tissues.

Depleted of their mineral constituents, the tissues protect themselves as best they can by drawing on the organic reserves, especially the bones, so that pyrexia not only entails arrest of development, but also of positive denutrition.

Then, too, the blood pressure in the young is normally low compared with that of the adult, so that the depression resulting from the ravages of disease is particularly well marked.

Apart from acute disease, children suffer from a series of affections associated with chronic malnutrition. Dyspepsia, rickets, scurvy-rickets, etc., are all characterized by

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impoverishment of the tissues, so that although less rapidly induced, the constitutional changes are, roughly speaking, the same. The consequences, however, are more serious, because they are more protracted. The lack of mineral salts in general, and the compounds of phosphorus with the earthy bases in particular, leave the skeleton abnormally plastic, so that the traction of the muscles produces deformities of the thorax and limbs, which deformities are likely to become permanent unless speedily remedied.

The recognition of this condition affords the requisite data for the choice of the most suitable tonic. The weakly infant is the victim of more or less pronounced demineralization of the tissues, and the indication is that it should be provided with the material for remineralization in the form best adapted for immediate assimilation. At the same time, tone must be restored to the vascular system and to the muscles, in order to secure the performance of the vital functions.

Now, the salts of which the youthful organism stands most in need are compounds of phosphorus, and, as its capacity for assimilation is limited in regard to any particular salt, the phosphorus must be combined with various bases. Of all the phosphorus compounds, the hypophosphites are recognized to be the most readily utilized by the tissues; hence a compound syrup of these salts will fulfil every indication.

The vasotonic element—strychnine—may advantageously be associated with these salts, as it is in Fellows' syrup of the hypophosphites.

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eating Jelly may be advantageously subjected. Antiseptics and frequent scrubbing of the hands are likely to produce a dermatitis. The jelly should be used to soothe the skin and prevent irritation. Certain skin diseases, such as pruritus, may be greatly mitigated by the application of the jelly. It is soothing and healing, and can be used with much benefit in the eruptive fevers in which there are itching and irritation of the skin. Further information can be had by addressing the manufacturers, Eli Lilly & Co., Indianapolis.

Facts About Phylacogens.

PRACTITIONERS who have a fondness for figures, and who want definite, first-hand knowledge of what the Phylacogens are accomplishing in the way of actual clinical results, are urged to turn to the display announcement in the current issue of this JOURNAL bearing the signature of Parke, Davis & Co. Here, under the title "The Value of the Phylacogens," one finds the results in 4148 cases of infectious diseases that have been treated with Phylacogens. One also reads in detail what is credited to each individual Phylacogen. For instance, you may be interested in rheumatic affections. You see at a glance that a certain number of cases have been treated and reported; the same glance tells you how many of them were treated successfully. This is equally true of pneumonia cases, erysipelas cases, gonorrheal cases, mixed-infection cases. Figures are apt to be tiresome. These figures are not so; they tell what every practitioner of medicine wants to know or should know. We commend the announcement to our readers.

Ferruginous Elements of Bovinine.

THE blood, the nourishing fluid which conveys to our tissues the elements necessary to life and development, owes one of the most important of its properties to the iron contained in its red corpuscles. Consequently, when iron is lacking in the organism, the blood becomes impoverished and strength rapidly disappears. It then becomes necessary to furnish to the blood, under the form of a medicament, the iron that it has lost. Bovinine answers this purpose very effectively. In its combination with the other elements the iron loses its astringency and its disagreeable taste without there being any lessening of its medicinal properties.

Bovinine is tolerated by all stomachs. It is

just as salt is a food and not a mere condiment. Without salt the tissues are unable to assimilate and to retain the elements indispensable to their nutrition and growth. Under the influence of the hypophosphites they not only gain in weight, but also in density, owing to the fixation of inorganic salts, and so the balance of nutrition is restored.—*Alfred S. Gubb, M.D., France, in the Medical World.*

Lubricating Jelly.

LILLY'S LUBRICATING JELLY is a most valuable addition to the list of remedies and articles which the physician and surgeon must have in his office and hand case. It is at once available and convenient for lubricating specula, etc., before they are introduced. But more gratifying, perhaps, is the use of the jelly as a lubricant for the fingers of the hand employed in making a vaginal or rectal examination. Both the physician and patient are protected from infection.

The jelly is fat free, water soluble, slippery and sterile. Hands and instruments are readily cleaned when they have been coated with it.

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The Sequelae of La Grippe.

AMONG all of the various acute and exhausting illnesses that afflict mankind, there is none that so generally results in distinct prostration as epidemic influenza or la grippe. Even the grippal infections which are uncomplicated or unaccompanied by serious organic changes are more than apt to leave the patient in a thoroughly devitalized condition after the acute febrile symptoms have subsided. It is for this reason that the treatment of la grippe convalescence is of special importance. The anemic, debilitated, depressed patient requires a systemic "booster" that will not only stimu-

late, but revivify and reconstruct. It is distinctly wise, in such cases, to commence vigorous tonic treatment as early as possible, preferably by means of Pepto-Mangan (Gude), the hemic builder and general reconstituent. This standard hematinic increases the vital elements of the circulating blood and, by increasing the appetite and improving the absorptive and assimilative functions, quickly restores both hemic and general vitality.

The Nervous Trials of the Alcoholic.

THE physician who has not yet employed it as a means of relief in the nervous element of alcoholism will be most agreeably surprised the first time he resorts to Pasadyne (Daniel's Concentrated Tincture of Passiflora Incarnata) in the condition mentioned.

The distinct power it possesses as a calmative agent is markedly enhanced by its freedom from danger or evil effects, a point worthy of consideration during the choice of a sedative agent. Pasadyne may be fully relied upon to soothe hypercerebration and bring about a refreshing sleep. A sample bottle may be had by addressing the Laboratory of John B. Daniel, Atlanta, Ga.

A Seasonable Reminder.

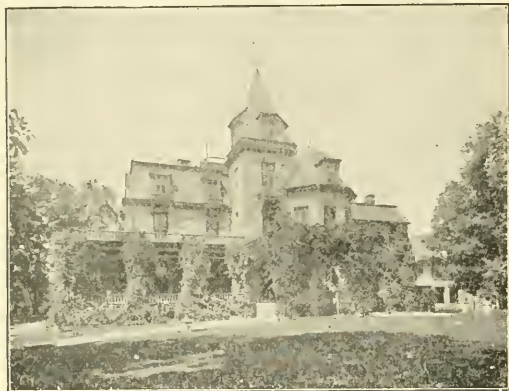
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This, however, is only one new field of usefulness of this most diffusible of drugs, which to many practitioners is still known only as a urinary antiseptic. Physicians who have not yet received the new 20-page booklet on Urotropin recently published by Schering & Glatz, New York, can obtain a copy of the same by addressing the firm, mentioning this journal. It is the best and most convenient way to become posted on Urotropin therapy up-to-date.

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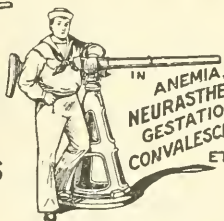
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GALEN— And Cottages **HALL**

Hotel and Sanatorium ATLANTIC CITY, N. J.

¶ Stone, Brick and Steel Buildings, with every modern comfort. Two Elevators and five Sun Parlors.

¶ Convalescents can have specially prepared diets and other helps, and be under control and advice of home physician through our resident.

¶ Our Treatment Department includes Electric and Hydriatic Appliances of the latest style, with Sea Water. Trained attendants only.

F. L. YOUNG, General Manager

A New Soluble
Arsenico-Mercurial
Salt, in which As and
Hg are dissimulated.

ÉNÉSOL

Salicylarsinate of
Mercury for intra-
muscular injections

ITS ADVANTAGES

1. Toxicity very slight, only 1-70th of that of mercuric iodide. Large doses of As and Hg may therefore be given without causing signs of intolerance.
2. Énésol injections are painless, cause no indurations and are well tolerated even in large doses.
3. Therapeutically Énésol is equal to any mercurial salt. It combines the specific action of Hg and the tonic effect of the As in the form of a methyl derivative.
4. Prof. Gailleton at the Antiquailles Hospital, Lyon, tried it in various stages of syphilis (800 injections); the satisfactory results were reported in the "communication of Dr. Coignet to La Société Nationale de Médecine de Lyon, May 30, 1904, and the communication of Dr. Pauly and Dr. Jambon to the Société Nationale de Lyon, October 24, 1904.

Énésol is supplied in ampoules (10 per box) of 2 c. c. of a 3% solution.

The name Énésol (evenais, to inject) is used to conceal the mercurial composition of the medicament.

CLIN'S CACODYLATE OF SODIUM

An Organic Form of Arsenic may be given for long periods and in large doses, as it has none of the disadvantages of the mineral arsenical compounds.

CLIN'S SODIUM CACODYLATE $\text{As}(\text{CH}_3)_2 \cdot 2\text{O}^3 \text{NA} \times 2\text{H}_2\text{O}$

Is purer than the commercial cacodylate. The solution for hypodermatic use is neutral. Injections are painless. Each sterilized tube contains 0.05 gram of C. P. Sodium Cacodylate.

CLIN'S DROPS OF C. P. SODIUM CACODYLATE

Five drops contain exactly 0.01 gram of Sodium Cacodylate.

CLIN'S GLOBULES OF C. P. SODIUM CACODYLATE

Gluten coated, easily taken, each contains exactly 0.01 gram of Sodium Cacodylate.

The average daily dose 0.10 gram equals 0.06 gram of arsenious acid or 6.15 grams of Fowler's solution.

THE CLIN LABORATORIES, COMAR & CIE, 20 Rue des Fossés, Saint Jacques, Paris, France

E. FOUGERA & CO., U. S. Agents, New York

Purveyors to the Paris Hospitals.

